IN THE CLAIMS

1-17. (Cancelled)

18. (Currently amended) A method of ~~detecting~~ measuring activity of an NAD+ utilizing enzyme, comprising:

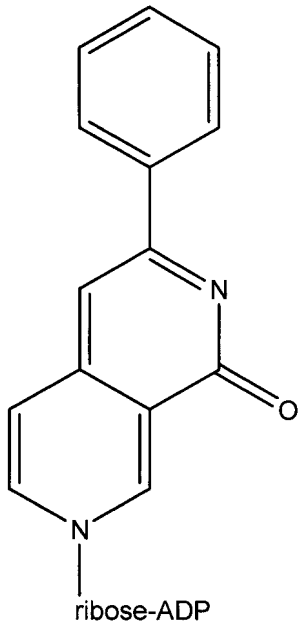
incubating the enzyme with NAD+ and a substrate for the enzyme;

~~quantifying any remaining NAD+ by the method of claim 12~~

converting any remaining NAD+ to a fluorescent compound; and

measuring an amount of fluorescence of the fluorescent compound.

19. (Original) The method of claim 18, wherein the fluorescent compound is compound **1**:



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20. (Original) The method of claim 18, wherein the converting comprises:

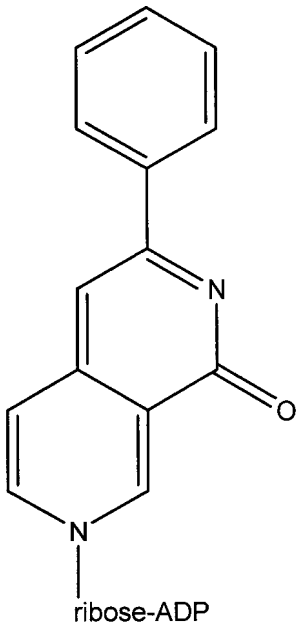
mixing NAD+ with acetophenone and base, to form a mixture; and

reacting the mixture with acid.

21. (Original) The method of claim 20, wherein the base is a solution of KOH.

22. (Original) The method of claim 20, wherein the acid comprises formic acid.

23. (Original) The method of claim 20, wherein the fluorescent compound is compound **1**:



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24. (Original) The method of claim 18, wherein the enzyme is PARP.

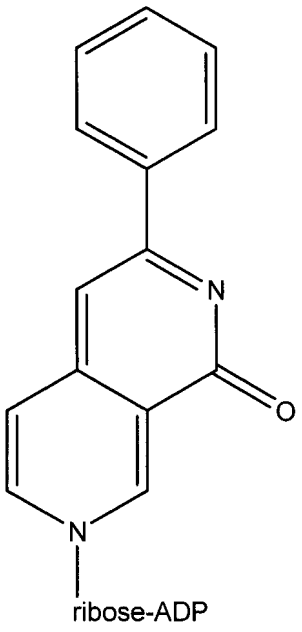
25. (Currently amended) A method of determining whether a compound is an inhibitor of an NAD+ utilizing enzyme, comprising:

~~comparing an amount of NAD+ consumed during reaction of the enzyme with a substrate for the enzyme~~ measuring activity of the enzyme by the method of claim 18, with and without the compound; and

comparing the measured activity of the enzyme with the compound and the measured activity of the enzyme without the compound

~~wherein the amount of NAD+ not consumed is measured by the method of claim 12~~.

26. (Original) The method of claim 25, wherein the fluorescent compound is compound **1**:



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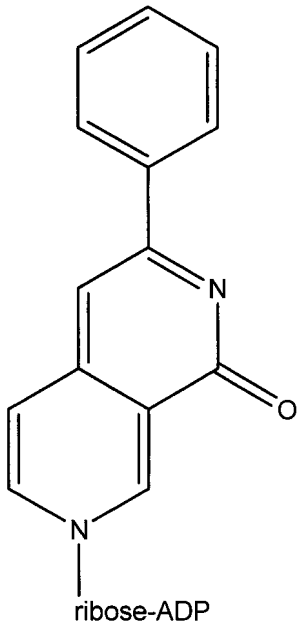
27. (Original) The method of claim 25, wherein the converting comprises:
mixing NAD+ with acetophenone and base, to form a mixture; and
reacting the mixture with acid.

28. (Original) The method of claim 27, wherein the base is a solution of KOH.

29. (Original) The method of claim 27, wherein the acid comprises formic acid.

30. (Original) The method of claim 27, wherein the fluorescent compound is compound **1**:



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31. (Original) The method of claim 25, wherein the enzyme is PARP.

32. (Original) The method of claim 27, wherein the enzyme is PARP.

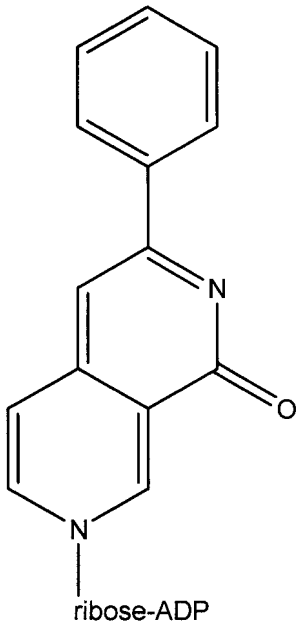
33. (Currently amended) A method of detecting a genetic deficiency in an NAD+ utilizing enzyme in a patient, comprising:

measuring activity of the enzyme from the patient and a control enzyme, by the method of claim 18; and

comparing ~~an amount of NAD+ consumed during reaction of an~~ the measured activity of the enzyme from the patient ~~with a substrate for the enzyme, with an amount of NAD+ consumed during reaction of a~~ and the measured activity of the control enzyme ~~with the substrate;~~

~~wherein the amount of NAD+ not consumed is measured by the method of claim 12~~.

34. (Original) The method of claim 33, wherein the fluorescent compound is compound **1**:



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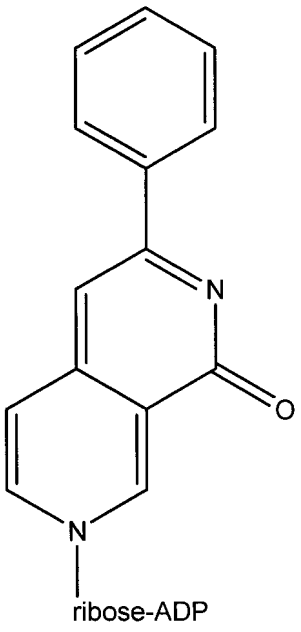
35. (Original) The method of claim 33, wherein the converting comprises:
mixing NAD+ with acetophenone and base, to form a mixture; and
reacting the mixture with acid.

36. (Original) The method of claim 35, wherein the base is a solution of KOH.

37. (Original) The method of claim 35, wherein the acid comprises formic acid.

38. (Original) The method of claim 35, wherein the fluorescent compound is compound **1**:



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39. (Original) The method of claim 33, wherein the NAD+ utilizing enzyme is long-chain 3-hydroxyacyl-CoA dehydrogenase.

40-53. (Cancelled)